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**CLAIMS:**

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1. A data transaction card having an interface for bi-directional contactless communication, the data transaction card comprising:
- 5 a support (20) having a cavity (12, 22) for accommodating therein a chip carrier module (10) which comprises:
- a substrate (11, 21) having a first side (45) and a second side (46),
- an integrated circuit (30) mounted on the first side of the substrate for managing functions of the data transaction card, and
- 10 a coil antenna (40) electrically connected to the integrated circuit for inductive coupling with a remote antenna, connections to the coil antenna being accessible from the first side of the substrate;
- the chip carrier module being packaged into one discrete unit so as to be amenable to mechanical assembly of the data transaction card without requiring additional electrical connections between the coil antenna and the
- 15 chip carrier module during or subsequent to assembly.
2. The data transaction card according to Claim 1, further comprising:
- an optical visual authentication mark (16) applied to the second side of the substrate, so as to remain visible after packaging into the chip carrier module and after assembly of the chip carrier module with the support.
- 20 3. The data transaction card according to Claim 2, wherein the visual authentication mark is a hologram.
4. The data transaction card according to Claim 2, wherein the visual authentication mark is an encoded hologram which forms a personal identification of an authorized bearer of the data transaction card.
- 25 5. The data transaction card according to Claim 4, wherein the encoded hologram is a picture of the authorized bearer of the data transaction card.
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6. The data transaction card according to Claim 1, wherein the substrate (11) further comprises:

a contact field with separate contacts (31) applied on the second side of the substrate, for contact communication between the data transaction card and a card reader.

7. The data transaction card according to Claim 6, wherein the contact field conforms to ISO 7816.

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8. The data transaction card according to Claim 6, wherein:

the cavity (22) is spatially disposed relative to the support so that when the chip carrier module (10) is assembled on to the support (20), the contact field conforms to ISO 7816.

9. The data transaction card according to <sup>claim 6</sup> ~~any one of Claims 6 to 8,~~ wherein contact field is dimensioned so as to increase the effectiveness of the coil antenna.

10. The data transaction card according to Claim 1, wherein the coil antenna (40) is applied on the first side (45) of the substrate (11).

11. The data transaction card according to Claim 1, wherein the coil antenna (40) is applied on to the second side of the substrate (22), and is connected to the integrated circuit (30) by electrical interconnections (26) passing from the first side of the substrate to the second side thereof.

12. The data transaction card according to Claim 10, further comprising:

a second coil antenna (41) mounted on the second side of the substrate and being connected to the first coil antenna (40) and to the integrated circuit (30) by electrical interconnections (43) passing from the first side of the substrate to the second side thereof.

13. The data transaction card according to Claim 12, wherein the first and second coil antennae are provided each with a different number of windings.

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The data transaction card according to Claim 12, wherein:

the first and second coil antennae behave as a parallel plate capacitor, and

an operational frequency of the coil antennae is a function of a capacitance of said parallel plate capacitor.

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The data transaction card according to Claim 13, wherein:

the first and second coil antennae behave as a parallel plate capacitor, and

an operational frequency of the coil antennae is a function of a capacitance of said parallel plate capacitor.

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The data transaction card according to Claim 1, wherein the coil antenna is applied along a periphery of the chip carrier module.

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The data transaction card according to Claim 6 having an overall thickness no greater than 0.8mm.

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A method for manufacturing a data transaction card according to Claim 1, including the steps of:

- (a) providing a support having a cavity therein,
- (b) independently producing a chip carrier module having embedded therein an integrated circuit and a coil antenna electrically connected to said integrated circuit without requiring additional electrical connections between the coil antenna and the chip carrier module during or subsequent to assembly, and
- (c) mounting the chip carrier module in the cavity of the support.

AMENDED SHEET  
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